A Review of the Evolution of Spatio-temporal Data Types

Armin Wasicek

Spatial Information Research Centre
University of Otago. Dunedin, New Zealand
Phone: +64 3 479-8135 Fax: +64 3 479-8311
Email: awasicek@infoscience.otago.ac.nz

Presented at SIRC 2004 – The 16th Annual Colloquium of the Spatial Information Research Centre
University of Otago, Dunedin, New Zealand
November 29th-30th 2004

ABSTRACT

The motivation for this presentation is to show current approaches for modelling processes in time and space. Different approaches have taken place to extend existing RDBMS to spatio-temporal functionality. The re-examination of the relational model and the demand for spatial as well as temporal data types has driven the effort to create new types of databases. The capabilities of the spatial and temporal object database Tripod which is based on a spatio-temporal data type approach is the foundation for this study (Griffiths et al. 2001). A review of the moving-object model is made (Gueting et al. 2003) and its relation to the implemented Tripod data model is outlined, following the evolution on their common roots.

***Keywords and phrases*:** moving-object model, discrete representation, spatio-temporal data types, Tripod

REFERENCES

Griffiths, T., Fernandes, A., Paton, N., Mason, K., Huang, B., Worboys, M. (2001) The Tripod Spatio-Historical Object Model, *20th International Conference on Conceptual Modelling (ER2001)*, Yokohama, Japan

Gueting R. H., Boehlen M. H., Erwig M., Jensen C. S., Lorentzos N., Nardelli E., Schneider M., Viqueira J.R.R. (2003) Spatio-temporal Models: An Approach based on Data Types. *Spatio-Temporal Databases – The Chorochronous Approach*, T. Sellis et al. (Eds.): Spatio-temporal Databases, LNCS 2520, pp. 117-176, 2003